

The courtesy of the Examiner in indicating the allowability of claims 11-12 and 18 is noted with appreciation. The sole remaining rejection is a rejection of claim 17 under 35 USC 103(a) as allegedly being unpatentable over Suzuki et al in view of Katz. Applicants respectfully traverse this rejection.

The rejection is based upon the Examiner's contention that the claim recitation: "wherein the thin film of organic semiconductor layer is obtained by controlling temperature of the substrate to 30°C or higher and 65°C or lower and vacuum-depositing tetradecafluoropentacene (C₂₂F₁₄) on the substrate at 1 x 10⁻⁴ pascals or lower" is a process limitation that does not limit the structure of the claimed organic thin-film transistor except to require a tetradecafluoropentacene (C₂₂F₁₄) organic semiconductor layer. Applicants respectfully disagree.

As discussed in MPEP 2113,

"The structure implied by the process steps should be considered when assessing the patentability of product-by-process claims over the prior art, especially. . .where the manufacturing process steps would be expected to impart distinctive structural characteristics to the final product. See, e.g., In re Garnero, 412 F.2d 276, 279, 162 USPQ 221, 223 (CCPA 1979) (holding "interbonded by interfusion" to limit structure of the claimed composite and noting that terms such as "welded," "intermixed," "ground in place," "press fitted," and "etched" are capable of construction as structural limitations.)"

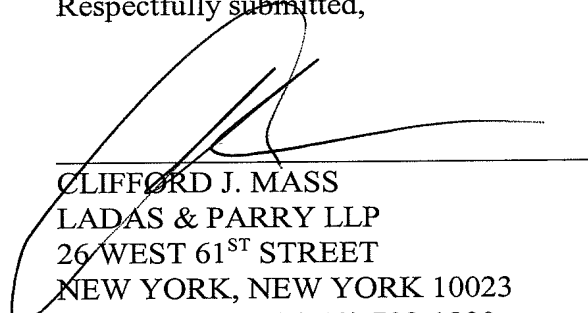
In the present case, the subject claim recitation (“wherein the thin film of organic semiconductor layer is obtained by controlling temperature of the substrate to 30°C or higher and 65°C or lower and vacuum-depositing tetradecafluoropentacene ($C_{22}F_{14}$) on the substrate at 1×10^{-4} pascals or lower”) would be expected to impart distinctive structural characteristics to the claimed organic thin film transistor and these structural characteristics distinguish the claimed invention from the cited art. Specifically, as described in the present specification in the paragraph bridging pages 7-8, the subject claim recitation provides an organic thin film transistor with a higher carrier-mobility than organic film transistors wherein the organic semiconductor layer is formed without controlling the temperature of the substrate and vacuum-deposition of the tetradecafluoropentacene on the substrate as claimed. This is shown in the specification as filed, as next discussed.

In this respect, Applicants respectfully call the Examiner’s attention to the description in the specification as filed at page 14, line 22 to page 15, line 5; page 38, line 32 to page 39, line 9 and Fig. 2 of the drawings. In these portions, the specification shows that, when a thin film of organic semiconductor layer is fabricated while controlling temperature of a substrate to 30°C or higher and 65°C or lower and vacuum-depositing tetradecafluoropentacene ($C_{22}F_{14}$) on the substrate at 1×10^{-4} pascals or lower, the thin film is formed with molecular planes of plural molecules of tetradecafluoropentacene approximately parallel to each other and the direction of a longer axis of each molecule is approximately perpendicular to a surface of the substrate. This is confirmed by x-ray diffraction, as illustrated in Fig. 2 where there is at least one peak that is sharper at 50°C whereas the at least one peak is broader at 25°C and ill-defined at 70°C.

In other words, the present specification shows that a product formed by the recited process provides a product (organic thin-film transistor) that is distinguishable **structurally** from conventional products that are formed by processes that do not meet the claim parameters (as is the case with the cited references). In these circumstances, the structure implied by the process steps should be considered and distinguishes the claimed product from the cited art. See MPEP 2113.

In view of the above, Applicants respectfully submit that all rejections and objections of record have been overcome and that the application is now in allowable form. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,



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